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Educational Research Bulletin

Earning Activities of High-School Students
EDGAR DALE AND H. W. BAKER

Two Questionnaire Devices
W. H. COWLEY

A Phase of First-Grade Readiness
JOSEPHINE H. MACLATCHY

Vol. X
No. 14

OCTOBER 14, 1931

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THE OHIO STATE UNIVERSITY

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Educational Research Bulletin
OCTOBER 14, 1931
Vol. X, No. 14

Earning Activities of High-School Students

By EDGAR DALE and H. W. BAKER

RESEARCH literature is almost barren of references either to the nature of children's economic problems or to the methods for giving children necessary economic training. The explanation of this lack is not difficult. In the first place, modern conditions necessitate a type of preparatory economic training which is probably a great deal more complicated than that necessary to participate in the agrarian, domestic economy of pre-industrial revolution days. The extension of compulsory school age also deprives the child of certain fundamental experiences which he would ordinarily secure in various earning activities. Parents are untrained for the new responsibilities which accompany our increasingly complex civilization, and the school as usual lags behind the needs of the time.

The attempt to define desirable economic education for children must be preceded by an analysis of the economic activities of children, and by the development of a philosophy to guide us in those areas where assumptions not yet measurable must be utilized. The economic activities of children which need careful study are earning, buying, saving, and investing. Fundamental studies need to be made in each of these four areas. At least two studies have been made of the buying activities of children.[1] As far as the writers have been able to determine, no complete statement of a philosophy of economic training is available in educational literature. That phase of children's economic education which deals with their earning activities is the one here reported upon.

[1] Dale, Edgar. "Economics for Children," Educational Research Bulletin, IX (October 8, 1930), pp. 381–84. And Chase, Sara. "Individual Differences in the Experience of Children," *Educational Method*, VIII (December, 1928, January, 1929), pp. 136–46 and 194–98.

TABLE I

Distribution by Sex for Occupational Frequencies

Job	Group A—Distribution by Sex			Group B Not Segregated	Total of Both Areas	Per Cent of Group	Per Cent of Total
	Boys	Girls	Sum				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Semi-Professions:	....	....	....	....	....	....	4.3
Technical assistance	6	5	11	0	11	1.3	....
Taxidermist	1	0	1	0	1	.1	....
Translator and interpreter	0	1	1	0	1	.1	....
Tuning organs	1	0	1	0	1	.1	....
Athletic professional work	20	0	20	0	20	2.4	....
Journalism	39	17	56	36	92	11.1	....
Entertainment	175	202	377	206	583	69.8	....
Social service	23	8	31	11	42	5.0	....
Gambling and betting	3	0	3	2	5	.6	....
Teaching	16	35	51	23	74	.4	....
Trades:	....	....	....	....	....	....	4.8
Printing	53	7	60	43	103	11.2	....
Machine trades	131	0	131	111	242	26.2	....
Metal trades	23	0	23	29	52	5.6	....
Building trades	170	4	174	143	317	34.3	....
Drafting	7	0	7	7	14	1.5	....
Tailoring	4	1	5	0	5	.5	....
Commercial art	19	64	83	34	117	12.7	....
Barber and beauty shops	11	23	34	39	73	7.9	....
Agricultural:	....	....	....	....	....	....	10.0
General farming	585	93	678	533	1,211	62.5	....
Farm projects	11	8	19	22	41	2.1	....
Dairy and creamery	24	8	32	21	53	2.7	....
Poultry and eggs	10	40	50	31	81	4.2	....
Animal husbandry	32	24	56	32	88	4.5	....
Hunting and trapping	34	0	34	30	64	3.3	....
Bees	1	0	1	0	1	.1	....
Harvesting	11	2	13	16	29	1.5	....
Crop raising	2	0	2	12	14	.7	....
Truck gardening	80	48	128	69	197	10.1	....
Fruit picking	5	28	33	32	65	3.4	....
Flowers and landscaping	58	10	68	28	96	5.0	....
Transportation:	....	....	....	....	....	....	4.1
Teaming and trucking	243	0	243	188	431	54.0	....
Water transportation	23	1	24	28	52	6.5	....
Work on roads	92	0	92	72	164	20.6	....
Railroads	49	0	49	54	103	12.9	....
Automotive repairing	13	0	13	21	34	4.3	....
Airplane	6	0	6	8	14	1.8	....
Communication:	....	....	....	....	....	....	1.0
Telegraph and telephone	46	33	79	60	139	74.7	....
Radio	29	0	29	18	47	25.3	....
Commercial:	....	....	....	....	....	....	39.0
Store clerk	1,184	1,692	2,876	1,496	4,372	57.8	....
Cashiers	8	79	87	54	141	1.9	....
Banking and investment	6	0	6	9	15	.2	....
Office clerk	139	347	486	272	758	10.0	....
Bookkeeping and accounting	6	28	34	17	51	.7	....
Stenography	2	60	62	42	104	1.4	....
Typing	8	125	133	92	225	3.0	....

TABLE I [*Continued*]

Job	Group A—Distribution by Sex			Group B Not Segregated	Total of Both Areas	Per Cent of Group	Per Cent of Total
	Boys	Girls	Sum				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Commercial (*Continued*)							
Advertising	4	1	5	5	10	.1	....
Civil service	69	36	105	62	167	2.2	....
Commodity sales	64	35	99	98	197	2.6	....
Sale of service	843	50	893	630	1,523	20.2	....
Industrial:	....	....	....	....	....	....	4.6
Factory work	355	133	488	330	818	92.5	....
Mining	2	0	2	15	17	1.9	....
Petroleum and oil field work	7	0	7	2	9	1.0	....
Pottery	5	1	6	5	11	1.2	....
Engineering (survey)	16	0	16	13	29	3.3	....
General Labor:	1,048	11	1,059	852	1,911	....	9.9
Odd Jobs and Miscellaneous	152	36	188	246	434	....	2.2
Scholarship and Prizes	9	15	24	9	33	....	.2
Service	....	....	....	....	....	....	19.9
Handling foods	111	34	145	83	228	6.0	....
Domestic service	5	1,296	1,301	963	2,264	59.1	....
Personal service	445	365	810	534	1,344	35.1	....

THE study here reported deals only with the earning activities in which Ohio secondary-school pupils engage and leaves untouched many of the problems involved. The data were secured from the mental-test blanks gathered by Herbert A. Toops in the fall of 1929. One of the questions asked the high-school Seniors who took the test was, "In what ways have you earned money?" and these data were made available to the writers. A fifteen thousand sampling of the thirty thousand questionnaires was made and care was taken to secure information on all the various areas of the state which might show differences in earning activities.

The earning activities reported were subject to several limitations. Only a small part of the questionnaire blank was left for the answer to this question, and therefore the statement of how the pupil earned money was not a complete one, unless his earning activities were limited to three or four jobs. There is no way to determine whether single responses were the most recent, the most frequent, or the most important activity experienced. Studies of those cases in which the pupil listed several activities suggested that the pupil tended to list first what he considered the most important experience, then the most recent. The assumption accepted in this study, therefore,

was that the pupil in answering the question gave the ways of earning money which seemed to him most important.

Table I indicates the relative and absolute frequencies of the various earning activities both in relation to the classification in which they are presented and to the entire group of activities. It should be noted that in Group A the sexes were classified separately. This separate classification was used until the experimenter became convinced that the results obtained by this division were not commensurate with the extra time needed to carry it out. In Group B the sexes are reported together. A number of interesting conclusions can be drawn, and each group of activities will be commented upon.

THE amount of work of a type that can be classified as professional is naturally nil. Since all professions require a long period of scholastic training, it is patent that the earning activities of high-school pupils will give them slight insight into the duties and responsibilities of a professional man or woman. The one exception, perhaps, is the commercial work where one may be in some degree an apprentice of a professional worker.

In the semi-professional category "entertainment" leads all other activities by a wide margin. This division is made up almost wholly of playing music for pay. It is mentioned as an earning activity slightly more frequently by girls than by boys. Seventy-four boys and girls report some form of teaching experience, suggesting the possibility of an actual trial of this profession. These activities are classified as semi-professional, since little or no training could have been possessed by these individuals prior to their teaching.

Through work in trades 4.8 per cent of the group earned money. Most of those so reporting were boys. About 60 per cent of these activities were accounted for in the machine and building trades. It is interesting to note that 103 pupils reported contact with printing and 117 with commercial art.

Agriculture is the third largest category. When the city of Cleveland, Lorain County, Van Wert County, and Perry County are tabulated separately on "general farming," the percentages of the entire total of all activities are 1, 12, 18, and 13, respectively. How valuable is actual farming experience in one's education? Is it possible satisfactorily to solve our

national problems of agriculture when such a large proportion of urban dwellers have had no sympathetic contact with the problems of rural life? Can a practicable scheme be set up whereby the city boy or girl may secure such experiences in the summer time? Such questions as these readily come to our mind when we reflect on the data just presented. That the farm boy and farm girl fail to secure important earning experiences open to the city boy and girl are also to be noted in the data. Would it be possible for them to exchange places for a period of time with their city cousins?

Experience in transportation activities are mentioned by 4.1 per cent of the pupils. Teaming and trucking lead all other activities in frequency of mention. The number of persons noting earning experiences in automotive repair seems surprisingly small. That many have actual experience in the activity itself is, of course, patent. Activities mentioned under the heading of "communcation" are exceedingly few in number, due doubtless to the technical training now made necessary for this type of work.

One of the most surprising results is the 4,372 boys and girls who have had experience as store clerks. These are divided in Group A into 1,184 boys and 1,692 girls. Working as a clerk in a store is apparently one of the activities for which secondary-school pupils appear to be well fitted. That the experience may be a meager one or a fruitful one depends, of course, on the variety and nature of goods sold, the responsibilities involved, and the length of time spent in this type of work. "Sale of service," which means solicitation of subscriptions, repair work in household equipment such as washing machines, vacuum cleaners, work on delivery truck, elevator operator, delivery of newspapers, and miscellaneous activities of this type, secure 1,523 entries, limited largely to the boys. Commercial activities, it should be noted, include the largest number of earning activities. It probably represents the type of activity in which high-school students are most likely to engage.

The earning activities labeled "industrial" represent only a small proportion of the total group. Of the 884 so reporting, 818, or 92.5 per cent, are found under factory work; about one-third of these are girls. It appears, therefore, that the opportunity or desire of such pupils for experiences in the factory is distinctly limited.

Under the category "general labor" are included all forms of heavy work and manual labor, foundry work, janitor work, and so on. The categories "miscellaneous odd jobs" and "scholarships and prizes" include only a relatively small number of activities. It is highly possible that, were the questionnaire more explicit, we should find that the number of earning activities under this heading would increase greatly. The heading "service" is the second highest in its number of earning activities. Domestic service accounts for the greatest number of activities and includes housework, cleaning, cooking, sewing, and caring for children.

DATA on the methods by which children earn money are significant for a variety of reasons. In the first place, earning and learning are indissolubly linked. The teacher or principal who is trying to teach the whole youth cannot fail to be concerned with his background of earning experience. Surely there are few educative experiences so valuable as a job in which one has been paid money.

Certain subjects in the high-school curriculum, notably the social sciences, deal in large measure with the ramifications of the industrial system in its effect upon wage earners and employers of labor. First-hand experience of employment gives a more profound insight into this problem than could possibly be secured in any other way. That a secondary school should entirely ignore the implications of such earning experiences is unthinkable.

Through a variety of earning experiences the high-school student may secure a trial which is invaluable for vocational guidance. He learns the relative merits of indoor and outdoor work, the strong and weak points of a small business as opposed to a large-scale business, how to get along with one's employer and fellow employees, the ethics of business, and a score of other things. Experiences of this type are believed by some to be so educationally valuable that certain plans of collegiate education are based upon the thesis that earning experiences and cultural training are a unit and not dichotomous. If the scheme is sound at the college level, it should also be sound at the secondary-school level, where many more pupils are directly involved, and more of them concerned with obtaining their formal education before going out to earn their own way.

Earning activities vary greatly in their educative value. Some are, of course, positively harmful. The publication of a list of the common earning activities of high-school pupils may possibly stimulate the development of criteria of desirable earning experiences for boys and girls of secondary-school age. What, for example, are the relative merits of a position for the summer as a caddy in contrast with a job on a farm? While such a question cannot, of course, be answered objectively for individuals, nevertheless, we can discuss the problem in terms of the losses of certain values and gains in other cases.

Through such studies we may be able to secure light on the vocational choices of individuals. What part does one's earning experiences prior to graduation from high school play in the choice of a career? Is the person who has had such a wide variety of experiences likely to make fewer random movements in his jobs than one who has not? Is a wide variety of earning experiences prior to such graduation correlated positively with happy choices of one's life occupation?

Also, there is probably need for data concerning the amount of earning time that one can profitably spend and still do satisfactory school work. There is a possibility that children are being encouraged to earn money by their parents (primarily for the economic experience involved and only secondarily for the money, or vice versa), when the time spent might be used profitably in other areas of experience.

Early participation in responsible earning activities may set up standards and ideals of money making which are incompatible with the best ideals often held by parents and teachers for these pupils. The socially harmful learnings need to be carefully considered. The attitude one takes toward one's obligations in an earning situation probably influences his attitudes in other areas. Studies of attitudes of high-school pupils toward methods of making money and toward uses to which money can ethically be put would yield information highly valuable for curriculums in the social studies.

Finally, there is need for a great many facts on what is commonly spoken of by parents as "teaching children the value of a dollar." It is often said that children are much more thoughtful about the expenditure of money which they themselves have earned in contrast with the money that has been given to them by their parents. The ability to expend money

wisely is certainly one of the most important objectives toward which the school and the home ought to be working. Factual data are needed to see in what degree this ability is correlated with earning experiences secured by elementary- or secondary-school pupils.

[Vol. X, No. 14]

Two Questionnaire Devices

By W. H. COWLEY

INVESTIGATORS who use questionnaires have been interested, ever since the day of G. Stanley Hall, in recording the degree of feeling with which respondents answer questionnaire items. This brief article is written to report two devices recently developed for this purpose.

During recent years questionnaire writers have used a five-column plus and minus method to secure expressions of feeling. If an individual feels intensely about a declarative statement made in the questionnaire, he is asked to mark two plusses before the statement. If he feels strongly but not intensely, he is asked to mark one plus before the statement. On the other hand, if he feels intensely negative toward the statement, he is asked to write one or two minuses before the statement, depending on the strength of his negative feeling. Another similar device is the five-column checking scheme, the caption of each column expressing a variable degree of sentiment. The first column usually reads "very good," the second "good," the third "neutral," the fourth "poor," and the last "very poor." The respondent is asked to record his attitude by checking in the proper column.

As far as this writer knows no device has yet been reported which makes it possible for an individual to check his reaction to two or more variables of the same question at the same time. In a survey of Freshman Week at the Ohio State University, which the writer has been making, it became necessary to have reactions from members of the faculty and from Freshmen concerning the *success* during the current year of the events of Freshman Week and concerning the *desirability* of these same events for future Freshman Weeks. Thus "success" and "de-

sirability" constituted the two variables upon which opinions were sought. The scheme devised to keep the questionnaire compact and to avoid confusion upon the part of those who answered it, read as follows:

> Below are listed all the events of Freshman Week. After each event there are two boxes, one printed under the caption *SUCCESS*, the other printed under the caption *DESIRABILITY*. For the events in which you have had contact write in each box 1, 2, 3, 4, or 5 whichever number according to the following code best expresses your opinion of the *success* of the event this year and the *desirability* of having such an event next year.
>
> Code: 1. Very great. 2. Great. 3. Neutral. 4. Little. 5. Very little.

EVENTS	Success This Year	Desirability for Next Year
1. Section Organization		
2. General Assembly		
3. Pre-Tour Illustrated Talk		
4. Tour of the Campus		

A similar plan was used with each of the twenty-four items.

There is no reason why this device could not be used for as many as four or five variables without losing its simplicity. It is necessary to observe, however, that the code must make sense for each variable. It would be a shabby code, for example, that reads "very good, good" and so on, for both the variables "success" and "desirability," chiefly because "very good desirability" and "good desirability" are awkward phrases, and it is necessary, therefore, that the phrases which are used in the code should be logical and grammatical qualifiers of the nouns of variability.

THE second device is much more significant than the first. It has been used by the writer for several years in questionnaires which seek to obtain from those who respond a statement of their attitude toward a large enterprise. When numerous detailed questions have been asked, it is often desirable to tie up all of the factors involved in a single inclusive response which may be used quantitatively. Such a response at the end of the questionnaire makes it possible for the investigator to evaluate the matter under discussion in totality.

The device used toward this end is brief and pointed. In the questionnaire on Freshman Week already referred to it read as follows:

> You have heard the expression "six of one, and half a dozen of another." Keeping that expression in mind, note below how you would vote if you had ten votes to cast for or against retaining Freshman Week in future years.
> How many of the *ten* votes would you cast *for* Freshman Week? . . . . . .
> How many of the *ten* votes would you cast *against* Freshman Week? . . . . . .
> In 1, 2, 3 order explain briefly why you have voted as you have:
> [Space is allowed on the blank for these items.]

It is immediately obvious that this stunt is merely a five-degree affect measurement spread to ten degrees, but it has the value of being simple and easily understood. Several individuals who saw the device before its first use questioned its simplicity, but this writer has employed it with college Freshmen and with high-school Seniors, and in every case they have understood it readily and answered it rapidly. It has the further utility, moreover, of supplying a place for the individual replying to sum up his attitude toward the entire question at issue and to explain why he feels as he does. [Vol. X, No. 14]

* * *

MORE than one hundred specialists in the Federal Office of Education are constantly on the lookout for progressive innovations and vital trends in education in the United States and foreign countries. What they find is given at once to the school world through *School Life*, monthly journal of the Federal bureau. For teachers and school administrators who wish to keep informed about the studies, surveys, and bulletins of the Office of Education, *School Life* is a necessary guide. Its articles canvass every phase and field of education.

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A Phase of First-Grade Readiness

By JOSEPHINE H. MACLATCHY

SIX-YEAR-OLDS who have had no school instruction in number vary as extensively among themselves as any unselected later school group ever will. In the fall of 1928 a simple test of number was given to 1,242 six-year-olds who were entering Grade I at Cincinnati. From the percentile rankings of their scores upon the Pintner-Cunningham Primary Mental Test these children were grouped as the lowest quarter (those below the 25th-percentile), the middle fifty per cent (those from the 26th-percentile to the 75th-percentile), and

TABLE I

PERCENTAGE DISTRIBUTION OF THE ABILITY OF EACH GROUP TO COUNT BY ROTE

Counting by Rote	Lowest Quarter	Middle Fifty Per Cent	Highest Quarter	Counting by Rote	Lowest Quarter	Middle Fifty Per Cent	Highest Quarter
(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
0– 4	15	2	2	65–69	.....	1	2
5– 9	19	6	2	70–74	.....	.....	.....
10–14	37	26	16	75–79	.....	2	4
15–19	4	14	12	80–84	.....	.....	.....
20–24	2	12	12	85–89	1	.....	.....
25–29	10	16	26	90–94	.....	.....	.....
30–34	.....	.....	4	95–99	.....	1	.....
35–39	7	8	4	100 and			
40–44	2	.....	2	more	.....	4	14
45–49	2	6	.....				
50–54	.....	.....	.....	Median	12	21	27
55–59	1	4	4	Number of			
60–64	.....	.....	.....	children	97	137	57

the highest quarter (those from 76th-percentile to the 100th). In a second classification the children who had attended kindergarten were separated from those who had had no kindergarten experience. There were 291 children without kindergarten experience, 97 fell in the lowest quarter, 137 in the middle fifty per cent, and 57 in the highest quarter according to percentile rankings on the intelligence test.

The differences in achievement shown by these three groups of children who had not attended kindergarten are summarized by the tables given in this paper. Number experiences they surely had had; the tables in this paper give evidences of the

fact. The only safeguard which can be guaranteed is that they had received no systematic school instruction, since the test was given within the first two weeks of school. Since the children tested were those whose birthdays fell between two indicated dates in 1922 chosen in alphabetic succession from the first-grade lists, the group was unselected.

In Table I the abilities of the members of the three groups to count by rote are indicated. Only 2 per cent of these six-year-olds above the 25th-percentile could not count beyond 4 when they entered the first grade. More than one-third of the lowest, 8 per cent of the middle, and 4 per cent of the highest group could not count beyond 9. Had Cincinnati had the scheme of teaching counting to 10 in the first grade, most of

TABLE II

PERCENTAGE DISTRIBUTION INDICATING THE ABILITY OF THESE THREE GROUPS IN ARRANGING AND NAMING GROUPS OF OBJECTS

Groups of Objects	Lowest Quarter	Middle Fifty Per Cent	Highest Quarter	Lowest Quarter	Middle Fifty Per Cent	Highest Quarter
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Arranging When Requested			Naming Groups Presented		
5	50	80	86	45	77	80
6	34	69	86	29	59	71
7	35	64	75	24	50	62
8	25	54	69	21	51	60
10	22	59	77	16	45	64

the entrants would have been able to pass that hurdle of promotion before having any school instruction, for even the median child in the lowest group could count to 12.

The children's ability to arrange groups composed of various numbers of objects is shown in Table II. At least once in three trials 86 per cent of the highest, 80 per cent of the middle, and 50 per cent of the lowest were able to produce groups of five objects upon request, while groups of 10 objects were presented by 77, 59, and 22 per cent, respectively. Naming groups of objects numerically was next attempted. Five was named correctly by 80 per cent of the highest, 77 per cent of the middle, and 45 per cent of the lowest group, while the percentages for successfully identifying groups of 10 objects were 64, 45, and 16.

In a third test ten addition combinations of increasing dif-

ficulty[1] were presented in problems. More than one-third of the lowest group, more than two-thirds of the middle, and five-sixths of the highest knew the sum of 5+1 when presented in a simple problem; all agreed that 4+5 was least familiar.

Their knowledge of these ten addition combinations is summarized in another way in Table IV. Forty per cent of the

TABLE III

PERCENTAGES OF EACH GROUP THAT WERE FAMILIAR WITH THE INDICATED ADDITION COMBINATIONS

	Lowest Quarter	Middle Fifty Per Cent	Highest Quarter
(1)	(2)	(3)	(4)
5 + 1.....	35	68	84
7 + 1.....	27	63	81
1 + 9.....	22	46	75
4 + 4.....	17	25	46
1 + 6.....	23	47	72
5 + 2.....	15	35	56
8 + 2.....	16	35	65
4 + 5.....	4	17	35
5 + 3.....	16	22	46
3 + 5.....	4	22	39

TABLE IV

PERCENTAGES OF EACH GROUP KNOWING THE SUMS OF THE INDICATED NUMBERS OF COMBINATIONS

Addition Combinations	Lowest Quarter	Middle Fifty Per Cent	Highest Quarter	Addition Combinations	Lowest Quarter	Middle Fifty Per Cent	Highest Quarter
(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
0.....	40	13	.....	6.....	3	8	5
1.....	17	17	12	7.....	2	7	12
2.....	16	7	9	8.....	1	4	9
3.....	8	12	.....	9.....	0	2	12
4.....	10	15	9	10.....	0	4	16
5.....	3	11	16	Median.	1.5	4.8	6.8

lowest group and 13 per cent of the middle group knew the sums of none of the addition combinations, while 12 per cent of the highest group knew only one. None of the lowest group got more than eight correctly, while 6 per cent of the middle, and 28 per cent of the highest group knew the sums of more than eight combinations. The median number correct was 1.5

[1] *See* Table II. Knight, F. B., and Behrens, Minnie S. *Learning the 100 Addition and the 100 Subtraction Combinations.* 1928. pp. 17 ff.

for the lowest, 4.8 for the middle, and 6.8 for the highest.

These children were chosen from the alphabetical lists of their first-grade classes with the only determining fact that their birthdays fell between March 1 and September 1 of 1922. By this means we were assured that their ages were between six and six and a half at school entrance. Thus this group may be considered as representing in miniature the unselected first-grade population that enters school each fall.

What are the facts of first-grade readiness here indicated? The median superior child can count to 27, he can arrange groups of 5, 6, 7, 8, and 10 objects correctly three times in three trials,[2] and can name groups of 5 and 6 objects, three times out of three trials, he knows the sum of 6.8 addition combinations of ten presented in problems. The median child of average ability on entering the first grade can count to 21, he can also arrange and identify groups of 5, 6, 7, 8, and 10 objects at least once in three trials, and he knows the sums of 4.8 of ten addition combinations presented in problems. The median child of less than average ability can count to 12, he can produce a group of 5 objects at least once in three trials, he is not successful at naming groups numerically, and knows the sum of 1.5 of the ten addition combinations in problems.

It may be a truism that first-grade teachers know that some first-grade children are familiar with number when they come to school. But how many would have believed that even the child in the lowest quarter of the intelligence ratings knew some number? Also, who has recognized that the median superior —he of the highest quarter according to intelligence ratings— has learned so much before he entered school? Of course, there are gaps in his knowledge of number. Likely his methods of reaching many of his conclusions are cumbersome. But when set against the custom of taking for granted that the first-grade child knows nothing about number, as well as the widely accepted belief that until he reaches Grade III he will not be able to cope with number facts, the ability of this median superior six-year-old deserves consideration.

There is no argument here for school-bred arithmetic in the first grade but for child instruction rather than group instruction, and for the continued use of the method by which he acquired these facts, adapted to school situations, of course.

[2] Percentages of more than 50 in a table not given.

EDITORIAL COMMENT

Better Schools

SCHOOL administrators are using the present period of hard times to eliminate waste and improve efficiency. The slogan, "Better schools with less money," has gained currency among many superintendents not only to maintain, but to increase, the morale of the staff. And this is a wise procedure, because undoubtedly there is a margin of latent enthusiasm in people which is not used under normal conditions. In times of relative financial easiness, supplies, equipment, and personal services which are not fully used accumulate within the school system. When funds are plentiful, waste is often not eliminated, because there is no pressing need for elimination.

Any student of political science who has studied the expenditures of governmental agencies will attest that waste is not conspicuous in the schools. That preventable waste is present in the schools, however, is true, and a period of depression is one obvious time to eliminate it. School administrators are, therefore, conducting informal surveys. They are not inviting outside experts to give their estimates of success and suggestions for improvement, but they are doing their own searching and measuring without ostentation and with industry. Intelligence is needed and is being used to discover where less can be spent to produce as good or better results. All these efforts are good for the schools, since perfect efficiency is not a standard that is attainable by all school people all of the time.

As we examine the September enrollment figures given in the *American School Board Journal*, however, we find that the registration in about 85 cities has increased this year, while only about 15 per cent have decreased, and the smaller numbers are sometimes due to epidemics. Thus, we are faced with the significant fact that, while school funds are temporarily decreasing, the demands for school services are still increasing, as they have in the past. More children of all ages are being presented for education. Even though one person who is of college age out of eight is now in college, there is no evidence that this ratio will decrease. On the contrary, it is entirely likely that in due time it may rise to one seventh, one sixth, one fifth, and

even to one fourth. Below the college the number of children of any age attending the elementary school is steadily approaching the maximum ratio, and the number enrolled is rapidly increasing in the high school. Soon all our youth will be in schools because, as someone has said, the "religion of America is education."

Since the population is growing, and since the school enrollments are increasing while a higher ratio of children is going to school and parents continue to demand good schools, we may expect that the funds for education will steadily and perhaps promptly increase. The present stringency, unpleasant but wholesome as it is, is not permanent.

Wise administrators will recognize this in shaping their financial policies. They have, as have their teaching corps, accepted in good part the decrease in funds and are conscientiously trying to make "better schools with less money." They must not, however, forget in these times of stringency to take the long view and plan intelligently and persistently to secure increases in funds, improvements in equipment, and superior services in personnel so that they may, at the appropriate time, substitute for that slogan another one, "Better schools for more money."

W. W. C.

A School-Building Survey

Within a reasonable period of years, every school system in the United States will have, it is hoped, as the basis for school plant planning a comprehensive analysis of the community and its educational needs, and a program for buildings which will be based upon adequate standards.

The author, T. C. Holy, research associate of the Bureau of Educational Research, Ohio State University, has provided in this report such a study for Springfield, Ohio.[1] The study is exceedingly thoroughgoing; it makes use of all available studies from other community organizations, and has developed a convincing building program both for the ultimate as well as the immediate needs of the city.

The limitations of the printed page have necessitated small

[1] Holy, T. C. *Survey of the Schools of Springfield, Ohio.* Columbus, Ohio: Ohio State University, 1931. 84 pp. (Bureau of Educational Research Monographs, No. 10)

maps which give a general idea of the detail with which the study has been carried on but which, on the other hand, are not any too clear for the reader. Definite improvement in this field is essential for all school-building survey reports. The title of the report should have been limited to the field which it covers, namely, the analysis of the problems in the field of school-plant development.

N. L. ENGELHARDT
Teachers College, Columbia University

* * *

FOR an increasing number of persons the announcement of a work on human learning by Thorndike[1] is enough; it must be read. True, it is not designed as a practical aid to the teacher in service, though it contains many stimulating suggestions. But all who are interested in the nature of learning will wish to hear what the distinguished author has concluded as the result of the years of thought and experiment which have followed his pioneer studies in animal learning.

Briefly, Thorndike remains a stimulus-response associationist. Learning consists in the forming of bonds or connections. The chief change here is the practical abandonment of the "Law of Exercise." Exercise alone, no matter how frequent, causes little if any learning. A mass of experimental evidence is adduced. He concludes:

> All educational doctrines which attach value to experience or activity as such, irrespective of the direction of the experience or activity and of its consequences, are made less acceptable than before. Experience, in the sense of merely confronting and responding to the situations of life, can hardly be a powerful agent for either good or harm when several thousand repetitions of such an experience do so little.

What must be added to the exercise of a connection if learning is to go on? First, "belonging." The sequences which are learned are those in which a certain relevance is detected or imposed by the learner. A negative example from ordinary experience deserves to be perpetuated. To lace our shoes we must bend our backs; every adult has therefore experienced several thousand repetitions of the sequence: "tie shoe laces—unbend back." Yet no association is formed, because there is no sense of "belongingness."

Learning, however, is slow unless to belongingness is added

[1] Thorndike, E. L. *Human Learning.* New York: Century Company, 1931. 206 pp.

satisfaction. Thorndike is quite unrepentant under the adverse criticisms of his "Law of Effect." On the contrary, more than ever does he insist upon the importance of satisfaction as a basis for learning. It is "as sure as the fact of learning itself." But satisfaction is now defined somewhat more objectively in terms of results aimed at. Indeed, most of the evidence cited shows the necessity for knowledge of progress if learning is to occur.

Many of us are most eager to learn what Thorndike will say of the two newer doctrines in the field of learning: the conditioned response and *Gestalt*. Since the conditioned response seems to be but a special case of his own earlier "associative shifting," it might have been expected that he would greet it warmly. On the contrary, though with his customary urbanity, he is highly critical. He reviews the differences between learning, as ordinarily conceived, and the formation of conditioned responses and finds them decisive. The conditioned response, he suggests, is more likely to teach us more about excitability than about learning.

The whole book is in a sense an answer to *Gestalt*. Their particular doctrines are dealt with in a fair and tolerant spirit. *Gestalt* is a challenge to the "connectionist." System and organization are just as important in learning as Köhler, Koffka, and Wheeler contend, but says Thorndike, these systems, from the humblest to the proudest, are themselves built up out of simple connections. Thinking and reasoning enter into learning in a way different in appearance from automatism and habit yet they are not opposites; fundamentally they "are bone of their bone and flesh of their flesh." It is all a matter ultimately of neurone connections, though the complexity of connections may perhaps surpass our power to understand them.

Of course, in style this book is not brilliant; Thorndike never is. At times, there is a vagueness in the use of certain concepts which to the reviewer seems critical. It must be added that Thorndike has partially disarmed one by admitting the vagueness; to him it obviously does not seem so critical. On the whole, the writing is simple and clear. There is a mellow dignity in supporting the author's own positions, a tolerance of dissent which is wholly admirable, and few books compact into so little space a mass of experimental fact and a sweeping range of synthesis and theory. Here are combined in unusual fashion the worm's-eye and the bird's-eye view. HORACE B. ENGLISH

READINGS

CUNNINGHAM, MARGARET S. "An Experiment in Class Size in B9 Algebra," *California Quarterly of Secondary Education*, VII (October, 1931), pp. 19–28.

In this experiment approximately 100 pupils were assigned for instruction in beginning algebra under one teacher, the group being divided into two classes, one double the size of the other, with the two groups equally balanced according to intelligence quotients. Final records were complete for 83 pupils, 55 in the large group, and 28 in the small. In addition to the intelligence test, the Orleans Prognosis Test of Ability in Algebra was given the first week of the semester. According to results of this test the two groups were not so evenly balanced in terms of ability in algebra as was indicated by the intelligence quotients, the large group having a somewhat central tendency and less variability.

Four tests, copies of quarterly tests formerly given in the city, were given at approximately five-week intervals during the semester. During the eighteenth week of the term, a test compiled by the City Division of Psychology and Educational Research also was administered, as well as the Columbia Research Bureau Algebra Test. On all of these tests the large group gave the higher median and mean scores, although the differences were not statistically significant. Furthermore, the correlations between the results of the prognosis test and that of the intelligence test showed the former to be superior as a basis of prediction of achievement in the course. Had the division been based on results of the prognosis test, the final results might have been different.

EELLS, WALTER CROSBY. "New California Junior College Legislation," *Junior College Journal*, II (October, 1931), pp. 24–29.

LINDSAY, CHARLES. "New Junior College Law in Nebraska," *Junior College Journal*, II (October, 1931), pp. 11–15.

The 1931 California Legislature considerably changed the junior-college statutes all in the direction of simplification and flexibility. For example, the changes made in 1929 provided that a junior-college district must have an assessed valuation of $25,000,000 and an average daily attendance in the high school of one thousand. The necessary average daily attendance in the college to prevent closing must be two hundred. The new law provides that the state board of education shall establish minimum standards for the formation of junior-college districts, the only specification being that the assessed value shall be sufficiently large that a tax rate not in excess of twenty cents on each $100 will yield an amount which, together with the state aid, is deemed adequate for the operation of a junior college.

The new law further provides that the superintendent of public instruction shall make a survey of the proposed junior-college district, the results of which will be reported to the state board of education to serve as a basis for their decision. Other changes are made in the matter of attendance, bonding, university affiliation, crediting, and sale of buildings and fixtures.

Provision is also made for a state survey of higher education, the results of which will probably have considerable influence on the further development of the junior college in the state.

The first junior college in Nebraska was organized in 1926 in McCook followed by a second at Norfolk in 1928. These two institutions operated without legal authorization until a law giving them legal status was approved on March 26 of this year. Among the significant provisions of this law are the following:

1. Junior colleges may only be organized in schools districts having a total average attendance of two hundred or more pupils in the high school or high schools and an assessed valuation of not less than $5,000,000.
2. In the formation of a junior-college district a petition signed by five hundred or more qualified electors must be filed with the state superintendent of public instruction. If he approves the petition, it is submitted to a vote and must secure 60 per cent of the votes cast before the college can be established.
3. The college when organized is under the control of the junior-college board which is identical in membership and terms of office with the board of education of the school district.
4. The law makes no provision for state aid for the operation of public junior colleges.

HEDGE, JOHN W., AND HUTSON, PERCIVAL W. "A Technique for Evaluating Guidance Activities," *School Review*, XXXIX (September, 1931), pp. 508–19.

The article presents a technique for an objective evaluation of a year's guidance program in a high school. One of the fundamental assumptions back of the study is that there should be closer agreement between the hopes and the abilities of the pupils after the guidance program has been in operation for a year than there was at the beginning of the program. Measurements were made of the abilities of high-school pupils at the beginning of the year in September. Evidence was also secured from the pupils concerning their plans and aspirations for the future. In May, after the program had been in effect one year, evidence was again obtained concerning the pupils' plans for the future. The results showed that there was greater harmony in May between the aspirations of the pupils and their abilities than there was in September. The study is an example of the measurement of changes in pupils effected by the teaching program. The refinement of such techniques for measuring the outcomes of instruction, with the least amount of error, is greatly needed.

AKERS, SUSAN GREY. "Students' Use of Bibliographic Items," *Library Quarterly*, I (October, 1931), pp. 394–408.

This study undertaken primarily to ascertain to what extent the existing card catalogues in liberal-arts colleges meet the needs of the students shows that the use of the catalogues by the students is hampered by two related difficulties: the student does not know how to use advantageously the catalogue which is provided for his use, and he is ignorant of other bibliographic aids.

A list checked by 257 students in liberal-arts colleges throughout the

country shows the items on the cards which the students understand, those they are in doubt about and cannot use, and indicates, also, a desire for a better system of cross references or a scheme which will inform the reader of more material on the subject pursued. This study should be of material aid to makers of college-library catalogues, and to the person who gives instruction in the use of the catalogue to students.

RICHARDSON, O. D. "English for Semi-professional Students," *Junior College Journal*, II (October, 1931), pp. 30–37.

The Chairman of the Department of English of Los Angeles Junior College describes the factors influencing the curriculum in English in a school where students are not primarily academic in habits or interests, and where literary background is of doubtful strength. The first-year English course, as it now exists at that institution, is a one-year subject, although the work of the two semesters places different emphasis upon phases of composition, the first semester striving for accuracy and clarity, and the second for the subtler elements of style.

Note-taking, reading of expository matter, tests on reading and vocabulary, extra-credit reading, essay writing are included in the study plan for the first semester. A developed reading program, which is at once both more extensive and more intensive, and an expanded plan of writing occupy the second semester. Since the junior college realizes that this one year of English may be the last formal literary training the student will ever receive, this type of curriculum seems desirable.

HARBESON, JOHN W. "An Evaluation of the Practice of Classifying High School Graduates into Separate Recommended and Non-recommended Groupings," *California Quarterly of Secondary Education*, VII (October, 1931), pp. 34–40.

This study, which is a brief of an unpublished Doctor's dissertation, is an effort to evaluate the practice of the University of California and most private endowed institutions in that state of admitting as Freshmen only such students as are designated as recommended, a group which in most high schools comprise not more than 50 per cent of the graduating classes.

The majority of the institutions leaves the decision as to who shall be recommended with the secondary-school principal. In as much as the ratings of the secondary schools are in part dependent upon the scholastic records of their pupils, the percentage of recommended graduates has gradually decreased. In the Pasadena High School, which the writer assumes is typical, the recommended list would not exceed 30 per cent of the graduates.

In this study comparisons of the recommended and non-recommended groups are made on nine different bases, among which are the social and economic backgrounds, high-school and junior-college academic records, standardized educational and psychological tests, and ratings made by students, parents, and teachers.

Among the significant findings of the study are the following: (1) Certain group tendencies are found in comparing the recommended and non-recommended students, but these tendencies are not even partially characteristic of all the members of the respective groups. (2) The most pronounced

deficiency of the non-recommended group as a class is the lack of mathematical and linguistic accomplishment. (3) Neither the old plan used by secondary principals, nor the new plan announced by the University of California effective August, 1931 (the details of which are not included) will classify into recommended and non-recommended groups without injustice to a large number of students. (4) If the classification of high-school graduates into groups, which involves the granting and withholding of opportunities, is to be justified at all, it should be on the basis of particular subjects rather than a blanket regulation covering the entire curriculum.

In Paper Covers

UNIVERSITY OF TEXAS. *Texas Mathematics Teachers' Bulletin*, XIV, No. 2 (1930), 56 pp. (University of Texas Bulletin, No. 3,020)

Of special interest in this issue of the Texas periodical is an article on "Subject Matter in Junior High School Mathematics," by J. L. Henderson. Other articles on the secondary level include "The Teaching of Fractions," "Factoring," "Signs in Multiplication," and "The Mathematics Remedial Program Used in the Port Arthur High School." An article on "The Numerical Notation of the Romans," by H. S. Vandiver, reprinted from the *Encyclopedia Britannica*, is of more than usual interest. P. M. Batchelder's article, "Fermat's Last Theorem," is of interest to teachers of higher mathematics. L. R. Fertsch presents a handy summary in "Formulas Basic in Educational Measurements." The issue closes with a study of the "Association between 'Passing' Freshman High-School Tests and the First Semester in the University of Texas."

W. J. OSBURN

DEFFENBAUGH, W. S. *School Administration in State Educational Survey Reports*. Washington: Government Printing Office, 1931. v+34 pp. (U. S. Office of Education Bulletin, 1930, No. 35)

Since 1920 the legislatures of no less than twelve states have had comprehensive surveys made of their respective school systems. The reports of these surveys contain certain recommendations relating to administration. This bulletin brings together, in an enlightening manner, the most important recommendations relating to state board of education, the state superintendents of instruction and their staffs, and local school administration, as found in the various reports. There is appended an article by Commissioner Cooper which reviews some of the significant experiments and experiences of the states in school administration.

H. R. DIETERICH

BARROWS, ALICE. *School Building Survey and Program for Warwick, Rhode Island*. Washington: Government Printing Office. vii+77 pp. (U. S. Bureau of Education Bulletin, 1930, No. 33)

Such a study was needed, because of the 23 buildings and additions in the school system 16 are of "E" type construction which is defined as "a frame building constructed with wood above foundation, with or without slate or other semi-fireproof material on roof." Ten of these buildings had four rooms or less, while 11 were located on sites of less than one acre.

Outside of the high school there is but one building having a site of as much as two acres. Since the original request did not include a study of the financial ability of the district, but little data are given on that phase of the report.

Two building programs covering a seven-year period are presented, one for the so-called traditional type of organization and the other for the platoon organization. The estimated cost of the former, exclusive of sites, is $1,907,250, while that of the latter is $1,364,550, or a difference of $532,700 in favor of the platoon type of organization. Since both programs are based on the same estimated enrollment, this difference is most significant. Recommendations are also made for the gradual abandonment of many of the present elementary buildings.

T. C. HOLY

STATE OF MINNESOTA, DEPARTMENT OF EDUCATION, STATISTICAL DIVISION. *A Study of Elementary and High School Costs in Districts Maintaining Class A High Schools and High School Departments.* St. Paul, Minnesota: State Department of Education, June, 1930. 58 pp.

STATE OF MINNESOTA, DEPARTMENT OF EDUCATION, STATISTICAL DIVISION. *A Study of Elementary and Secondary School Costs in Districts Maintaining Class B and C Four-Year and Six-Year High-Schools.* St. Paul, Minnesota: State Department of Education, December, 1930. 98 pp.

Each of these two pamphlets, the work of Mr. T. J. Berning, statistician of the Minnesota State Department of Education, presents his formula for separating elementary and high-school expenditures in a given school unit, which is a modification of the formula developed by C. W. Hunt and R. O. Stoops in their studies of school costs in the state of New York. Using data for the school year 1928–29, the compiler in each pamphlet projects thirty-odd statistical tables showing the per pupil cost of current expenditures for both elementary and high-school pupils in all the districts studied, broken down into cost to the district and cost to the state. Clear and convenient summaries follow the treatments of each type of district. Significant differences in the per pupil costs under differing local conditions appear. Such information is not only useful in affording a survey of school costs on a state-wide scale, but also as an incentive for more intensive localized studies. Besides showing relative per pupil costs at different levels and under different plans of school organization, as well as in school units of different sizes and in districts differing in the amount of taxable wealth per pupil, the reports also incidentally give a useful sketch of the extent and operation of the support of local schools from state funds in Minnesota.

M. M. CHAMBERS

Books to Read

TERRY, PAUL W. *Supervising Extra-Curricular Activities.* New York: McGraw-Hill Book Company, 1930. xi+417 pp.

"Extra-curricular" is a popular phrase; it sound both businesslike and academic. But when is an activity "extra-curricular" and when is it an integrated part of the curriculum? The divorce, in great part, of athletics, music, dramatics, and journalism from literature, mathematics, sciences, and

other accepted parts of the high-school course of study is neither reasonable, acceptable, nor understandable. But a quarrel with an author because of the title he has selected, backed as it is by prevailing opinion, should not detract from consideration of his book. This treatment of the so-called extra-curricular activities, together with the citizenship programs of student government and honor societies, is quite general, being perhaps more theoretical than practical, although illustrations are drawn from actual events. The book contains an interesting history of school activities and provides a general, if cursory survey.

FRANCES KIRKPATRICK

CASE, RALPH THOMAS. *A Study of the Placement in the Curriculum of Selected Teachings of the Old Testament Prophets.* Iowa City, Iowa: University of Iowa, 1930. 54 pp. (Studies in Character, Vol. II, No. 4)

The general conclusion drawn from this exploratory study is that caution should be exercised in placing prophetic material at too early an age in church-school curriculum. The significance of the study lies chiefly in the techniques of investigation which were developed.

W. W. CHARTERS

MCNEIL, MELLICENT. *A Comparative Study of Entrance to Teacher Training Institutions.* New York: Teachers College, Columbia University, 1930. xviii+104 pp. (Teachers College, Columbia University, Contributions to Education, No. 443)

The author has presented the facts of the survey, as a résumé of the past and of the present, with comparative data on Switzerland, Germany, France, England and Wales, Scotland, Australia and New Zealand, Canada, Scandinavia, and the United States. The findings reveal definite similarities in the qualifications set up for teachers. Thus, requirements of age, character, academic training, and health are quite universally adopted. There is a growing emphasis upon advanced standards of academic training, and a tendency to do away with entrance examinations. Most countries limit their teacher-training enrollments to select the superior candidates. Trends in the United States indicate a dissatisfaction with present methods of selecting teachers. Higher training requirements, more stress upon personal qualities, increased emphasis upon objective tests, and added responsibilities placed upon high-school principals in recommending candidates for training are among the most pronounced trends of the present time.

R. H. ELIASSEN

RANKIN, MARJORIE. *Trends in Educational Occupations.* New York: Teachers College, Columbia University, 1930. 83 pp. (Teachers College, Columbia University, Contributions to Education, No. 412)

The educational positions in the public schools of eleven large and two small cities, charted by ten-year periods from 1898 to 1928, are analyzed to determine the trends in numbers and percentages of high-school teachers in each subject. Conclusions for the whole United States as to supply and demand and teaching opportunities in each high-school subject are based upon data from the thirteen cities and the proportion of majors registered in

Teachers College, Columbia University, and Hunter College. Some supplementary data regarding placement of graduates of Teachers College, Columbia University, were presented.

The distribution of teachers in the large cities probably is not the same as that of teachers in the country at large, because cities ordinarily offer a larger variety of subjects and rural communities are slow to add new subjects. Likewise, restricted curriculums of small schools tend to increase the proportion of teachers in the older and more academic subjects. That the proportion of new teachers trained in the United States in 1928 can be gauged from a study of the students enrolled in two teachers' colleges, one of which enrolls mostly graduate students, is doubtful. The findings were not checked against any of the sectional supply-and-demand studies in existence, nor was the distribution of subjects in the public schools measured against any of the several state-wide subject distribution studies that have been made.

EARL W. ANDERSON

HILL, VICTOR D., SEEGER, DOROTHY M., AND WINCH, BERTHA M. *Bulletin on First-Year Latin.* Athens, Ohio: Latin Service Committee, 1930. xvi+256 pp.

This is a book of practical helps and suggestions for the teacher of beginning Latin, a cloth-bound book of over two hundred fifty pages, and not a pamphlet as the title might tend to suggest. The authors—editors they call themselves on the title-page—and their numerous contributors are practical teachers in Ohio universities, colleges, and high schools. After brief chapters on the present conditions and aims of first-year Latin teaching, the book treats the teaching of the language, of Roman life, of Latin in English, and such closely allied matters as practical classroom procedure, supplementary and illustrative work, Latin clubs and programs, and collateral reading, tests and measurements and, finally, the teacher's library and other equipment for teaching. Every phase of the subject is covered, and the way is opened to a lifetime of study.

Let us take one chapter, almost at random, Chapter III on Pronunciation and Vocabulary. After a simple treatment of the steps in learning the Latin pronunciation six practical exercises are presented; likewise, after presenting the essential facts about vocabulary-teaching, almost twoscore practical devices are offered. Many of these devices are most challenging in their appeal, and almost decide one to enter the field of Latin for the sake of using them. This chapter is typical of the rest. The book is well printed, appropriately illustrated, and there is a complete index as well as an analytical table of contents. The phrase is trite but, nevertheless, "no Latin teacher can afford to be without this book."

H. G. GOOD

WATSON, EDNA E. *A Source Book for Vocational Guidance.* New York: H. W. Wilson Company, 1930. 241 pp.

The title of this book, with its subtitle, Choice Selections and References for Counselors, Home-room Teachers, and Others Concerned with the Guidance of Youth, leads one to expect far more than he will find. Part I, devoted to Inspirational Material, includes much that is helpful, but the author's

preference for rather mediocre passages weakens the worth of this section. Part II, Workers, is a laudable attempt to list useful books and articles pertaining to various occupations. If this had been carefully done, it would undoubtedly have been a contribution to the literature on vocational guidance, but, unfortunately, many inaccuracies detract from its usefulness. For example, Zane Grey's name is misspelled and an excerpt from Frank T. Bullen's *The Cruise of the Cachalot* is called a short story and attributed to Rex Beach.[1] These two errors occurring on one page warrant doubt as to the other entries.

Part III, Bibliographies, seems to be more carefully prepared. Annotations that include full contents and evaluate the books add very materially to the usefulness of this part.

MARY REBECCA LINGENFELTER

FITZPATRICK, LORETTA M., AND BROWN, FANNIE WESTFALL. *The Home Room of a Junior High School.* Ann Arbor, Michigan: George Wahr, 1930. xii+100 pp.

The authors of this little book are, respectively, vice-principal and science teacher of Hutchins Intermediate School, Detroit. The writers recommend that an equal number of boys and girls be homogeneously grouped according to a composite score, these pupils, except for a few changes, to occupy the same room under the same teacher for the entire three years of their enrollment. While many items are highly formalized, this objection could be negated in the hands of a skillful teacher who uses the book for suggestions only. There are some excellent hints for those who anticipate the preparation of a student's manual or handbook. The suggestions which the book contains make it worth while in any junior high-school library. The lack of an index is regrettable.

H. B. WYMAN

GREENAWALT, LAMBERT. *School Press Management and Style.* New York: McGraw-Hill Book Company, 1930. xxii+420 pp.

Journalism is being taught and publications of some sort attempted in most of the high schools of any size in the country. Often the teacher is also the English teacher, or possibly one who has elected some journalism courses in college. Rarely will this high-school class be taught, or the publications supervised, by one who has had either thorough journalistic training or actual newspaper experience. There are some texts for high-school journalism, but often it is the teacher who is in greatest need of assistance.

For the amateur in publication, this book should appear heaven sent. It is written in a thoroughly intelligible style, and yet it is entirely professional. The author discusses the different types of school publications, gives details of staff organization, describes advertising and circulation campaigns, suggests news and feature possibilities which are dormant in every school, and concludes with a sample style sheet and a list of proofreading marks. The book is illustrated by cuts of high-school papers which have achieved national renown. A glossary and index, both of which are complete and usable, add to the value of this book which the reviewer feels cannot be too highly praised.

FRANCES KIRKPATRICK

[1] *Op. cit.*, p. 101.

NEW TESTS

THE Standard Test Lessons in Fractions, by Amy J. DeMay and W. M. McCall, consists of a set of thirty-six lessons in common fractions. A series of four progress tests, a set of record cards, and a teacher's manual are furnished with the outfit. The exercises are printed on manila cards and arranged in a convenient form. The cards can be used over and over again, since the pupil does not write upon them. The G-score of each exercise is indicated, and the exercises are well scaled. The teacher's manual contains some excellent suggestions for the teaching of fractions and directions for the use of the tests. The series is published by Teachers College, Columbia University.

Most of the content in this series is not open to question, but this is not true of all of it. It is no secret that the subject of common fractions contains a graveyard. In these days there is little need for reducing fractions with large denominations to lower terms. The only need for it is at the conclusion of a long-division problem, and in that case it is much more satisfactory to extend the quotient as a decimal. In like manner, there is little practical value for the addition and subtraction of fractions with unlike denominators, and the need for the addition and subtraction of fractions with unseen common denominators is about as near absolute zero as one can imagine. The tests would be just as good and perhaps cheaper, if the lessons relating to these features were omitted. An author of a textbook may be pardoned in some measure for including such matter in a book, but there seems no excuse at all for perpetuating material of this sort in a practice series.

The test includes a few examples in which a fraction is to be subtracted from one but none at all in which mixed numbers containing one are to be changed to improper fractions. The first of these is prerequisite to borrowing in subtraction, and the second is prerequisite to carrying in the addition of mixed numbers with the same denominators. The series would have been improved, if more attention had been given to these two features. An index would also have added to the convenience of the teacher who uses the tests.

In spite of these adverse criticisms, the exercises are to be commended to those who are struggling with common fractions. It is a distinct pleasure also to know that Mr. McCall is again able to continue his valuable contributions to our education literature.

W. J. OSBURN

WITH the recognition of the importance of reading in school and college reading tests have been almost indefinitely multiplied. One of the pioneers in the development of tests of the reading of particular school subjects has been M. J. Van Wagenen, of the University of Minnesota. He has recently prepared two new reading scales—one in biology and one in educational psychology, both of which are published by the Educational Test Bureau, Minneapolis.

The fact that for many persons there is a difference of reading ability for different types of content accounts for the interest in tests of this type. In the biology test a series of paragraphs has been selected from widely used biology textbooks representing typical materials read by college students. A similar procedure has been followed in selecting the paragraphs in the educational-psychology test. The validity of these tests, however, depends not only upon the content which the student reads, but also upon the type of reaction which he must make to this content in order to pass the test. In both of these examinations the student is asked to check those statements below each paragraph which express ideas that are stated in the paragraph or that can be derived or inferred from the paragraph. These exercises represent certain types of reaction required in reading, but there are many other kinds of behavior which may be necessitated by certain types of reading. Evidences need to be presented to indicate whether these test exercises are adequate to cover the major reading activities expected in courses in biology and educational psychology.

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